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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,438	06/03/2005	Yoshinari Koyama	273255US0PCT	3230

22850 7590 11/07/2008
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

KUGEL, TIMOTHY J

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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11/07/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/537,438	Applicant(s) KOYAMA ET AL.	
	Examiner Timothy J. Kugel	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-26 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4-9 and 11-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 2 and 4-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 2 and 4-26 are pending as amended on 27 August 2008, claims 1 and 3 being cancelled. Claims 2, 4-9 and 11-26 are withdrawn from consideration.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office action.

Response to Amendment and Arguments

3. Applicant's cancellation of claims 1 and 3 has rendered the following moot:

The rejection of claims 1 and 3 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of US Patent 6,626,987 (Suzuki '987 hereinafter) has been withdrawn.

The rejection of claims 1 and 3 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of US Patent 7,208,229 (Suzuki '229 hereinafter) has been withdrawn.

The rejection of claims 1 and 3 under 35 USC 102(b) as being anticipated by European Patent Application Publication EP 1077236 (Suzuki '236 hereinafter) has been withdrawn.

The rejection of claims 1 and 3 under 35 USC 102(e) as being anticipated by Suzuki '229 has been withdrawn.

4. Applicant's arguments have been fully considered but are not persuasive.

Applicant argues that none of US Patent 5,460,738 (Watanabe hereinafter), European Patent Application Publication EP 1077236 (Suzuki '236 hereinafter) or US Patent 6,626,987 (Suzuki '987 hereinafter) teach or fairly suggest a hydrothermal treatment of the stannic oxide alone, which is described in the instant specification as being carried out at 100 to 300°C for 0.1 to 200 hours; however, Watanabe teaches a treatment at 60 to 200°C. for from 0.1 to 50 hours of the stannic oxide and oxyzirconium—which meets the instant limitation of a hydrothermal treatment since it has been held that the selection of reversing the steps of a prior art process is *prima facie* obvious; the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results; and any order in mixing ingredients is *prima facie* obvious. See MPEP 2144.04(IV)(C), *Ex parte Rubin*, 128 USPQ 440 (Bd App 1959), *In re Burhans*, 154 F2d 690, 69 USPQ 330 (CCPA 1946) and *In re Gibson*, 39 F2d 975, 5 USPQ 230 (CCPA 1930).

Election/Restrictions

5. This application contains claims 2, 4-9 and 11-28 drawn to an invention and/or species nonelected effectively without traverse in the reply filed on 15 April 2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

6.

Claim Rejections - 35 USC § 103

7. Claim 10 stands rejected under 35 USC § 103(a) as being unpatentable over US Patent 5,460,738 (Watanabe hereinafter) in view of European Patent Application Publication EP 1077236 (Suzuki '236 hereinafter). US Patent 6,626,987 (Suzuki '987 hereinafter) is the US equivalent to Suzuki '236 and all references herein are taken therefrom.

Watanabe teaches a process for producing a sol comprising the steps: (a) a step of mixing an aqueous sol of stannic oxide containing colloidal particles of stannic oxide having a particle size of from 4 to 50 nm at a concentration of from 0.5 to 50 wt % as the oxide SnO₂, and an aqueous solution containing an oxyzirconium salt at a concentration of from 0.5 to 50 wt % as ZrO₂, in a weight ratio of from 0.02 to 1.0 as ZrO₂/SnO₂ derived therefrom; (b) a step of heating the mixed solution obtained in the step (a) at a temperature of from 60°C to 200°C. for from 0.1 to 50 hours—which meets the instant limitation of a hydrothermal treatment—to form an aqueous sol of stannic oxide-zirconium oxide composite having a particle size of from 4.5 to 60 nm; (c) a step of mixing the aqueous sol of stannic oxide-zirconium oxide composite obtained in the step (b) in an amount of 100 parts by weight, as the sum of ZrO₂ and SnO₂ contained therein, and a sol of tungstic oxide-stannic oxide composite having a particle size of from 2 to 7 nm and a WO₃/SnO₂ weight ratio of from 0.5 to 100, in an amount of from 2 to 100 parts by weight, as the sum of WO₃ and SnO₂ contained therein, at a temperature of from 0°C to 100°C to form an aqueous sol of modified stannic oxide-zirconium oxide composite having a particle size of from 4.5 to 60 nm; and (d) a step of

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contacting the aqueous sol of modified stannic oxide-zirconium oxide composite obtained in the step (c) to an anion exchanger to remove anions present in said sol. (Column 2 Line 64 – Column 3 Line 26).

Watanabe does not expressly disclose subjecting the stannic oxide solution to the hydrothermal treatment prior to addition of the oxyzirconium salt; however, at the time of the invention, it would have been obvious to a person of ordinary skill in the art, since it has been held that the selection of reversing the steps of a prior art process is *prima facie* obvious; the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results; and any order in mixing ingredients is *prima facie* obvious. See MPEP 2144.04(IV)(C), *Ex parte Rubin*, 128 USPQ 440 (Bd App 1959), *In re Burhans*, 154 F2d 690, 69 USPQ 330 (CCPA 1946) and *In re Gibson*, 39 F2d 975, 5 USPQ 230 (CCPA 1930).

Watanabe does not disclose expressly coating the $\text{SnO}_2/\text{ZrO}_2$ composite particles with an alkylamine/ Sb_2O_5 compound.

Suzuki '236 teaches a stable modified metal oxide sol which contains 2 to 60 nm primary particles of a $\text{SnO}_2/\text{ZrO}_2$ composite (Column 1 Lines 54-62 and Claim 1), wherein the ratio of ZrO_2 to SnO_2 in the is from 0.02 to 1.0 (Column 1 Lines 54-62), coated with an alkylamine/ Sb_2O_5 compound having an amine to Sb_2O_5 molar ratio of from 0.02 to 4.00 (Column 3 Lines 60-65 and Claim 1) and wherein the resulting particles have a size of from 2 to 100 nm (Claims 1 and 2).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to coat the particles in the process of Watanabe with the alkylamine/

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Sb₂O₅ coating of Suzuki '236. The rationale to do so would have been the teaching of Suzuki '236 that to do so would result in a metal oxide sol coating with improved scratch resistance, transparency, adhesion, water resistance and weather resistance over particles coated with a WO₃/SnO₂ coating as disclosed by Watanabe and Japanese Patent Document JP-A-10-310429 (Suzuki '236 Column 3 Lines 16-23 and Column 1 Lines 54-62).

8. Claim 10 stands rejected under 35 USC § 103(a) as being unpatentable over US Patent 5,460,738 (Watanabe hereinafter) in view of Suzuki '229.

Watanabe teaches a process for producing a sol comprising the steps: (a) a step of mixing an aqueous sol of stannic oxide containing colloidal particles of stannic oxide having a particle size of from 4 to 50 nm at a concentration of from 0.5 to 50 wt % as the oxide SnO₂, and an aqueous solution containing an oxyzirconium salt at a concentration of from 0.5 to 50 wt % as ZrO₂, in a weight ratio of from 0.02 to 1.0 as ZrO₂/SnO₂ derived therefrom; (b) a step of heating the mixed solution obtained in the step (a) at a temperature of from 60°C to 200°C. for from 0.1 to 50 hours—which meets the instant limitation of a hydrothermal treatment—to form an aqueous sol of stannic oxide-zirconium oxide composite having a particle size of from 4.5 to 60 nm; (c) a step of mixing the aqueous sol of stannic oxide-zirconium oxide composite obtained in the step (b) in an amount of 100 parts by weight, as the sum of ZrO₂ and SnO₂ contained therein, and a sol of tungstic oxide-stannic oxide composite having a particle size of from 2 to 7 nm and a WO₃/SnO₂ weight ratio of from 0.5 to 100, in an amount of from 2

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to 100 parts by weight, as the sum of WO_3 and SnO_2 contained therein, at a temperature of from 0°C to 100°C . to form an aqueous sol of modified stannic oxide-zirconium oxide composite having a particle size of from 4.5 to 60 nm; and (d) a step of contacting the aqueous sol of modified stannic oxide-zirconium oxide composite obtained in the step (c) to an anion exchanger to remove anions present in said sol as detailed above.

Watanabe does not expressly disclose subjecting the stannic oxide solution to the hydrothermal treatment prior to addition of the oxyzirconium salt; however, at the time of the invention, it would have been obvious to a person of ordinary skill in the art, since it has been held that the selection of reversing the steps of a prior art process is *prima facie* obvious; the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results; and any order in mixing ingredients is *prima facie* obvious. See MPEP 2144.04(IV)(C), *Ex parte Rubin*, 128 USPQ 440 (Bd App 1959), *In re Burhans*, 154 F2d 690, 69 USPQ 330 (CCPA 1946) and *In re Gibson*, 39 F2d 975, 5 USPQ 230 (CCPA 1930).

Watanabe does not disclose expressly coating the $\text{SnO}_2/\text{ZrO}_2$ composite particles with an alkylamine/ Sb_2O_5 compound.

Suzuki '229 teaches a stable modified metal oxide sol which contains 2 to 60 nm primary particles of a $\text{SnO}_2/\text{ZrO}_2$ composite (Column 1 Lines 54-62 and Claim 1), wherein the ratio of ZrO_2 to SnO_2 in the is from 0.02 to 1.0 (Column 1 Lines 54-62), coated with an alkylamine/ Sb_2O_5 compound having an amine to Sb_2O_5 molar ratio of

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from 0.02 to 4.00 (Column 3 Lines 60-65 and Claim 1) and wherein the resulting particles have a size of from 2 to 100 nm (Claims 1 and 2).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to coat the particles in the process of Watanabe with the alkylamine/ Sb_2O_5 coating of Suzuki '229. The rationale to do so would have been the teaching of Suzuki '229 that to do so would result in a metal oxide sol coating with improved scratch resistance, transparency, adhesion, water resistance and weather resistance over particles coated with a WO_3/SnO_2 coating as disclosed by Watanabe and Japanese Patent Document JP-A-10-310429 (Suzuki '229 Column 3 Lines 16-23 and Column 1 Lines 54-62).

The applied reference Suzuki '229 has a common inventor and assignee with the instant application. Based upon the earlier effective US filing date of the reference, it constitutes prior art only under 35 USC 102(e). This rejection under 35 USC 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective US filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 USC 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing

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that the reference is disqualified under 35 USC 103(c) as prior art in a rejection under 35 USC 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached on 5:30 AM - 4:00 PM Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J. Kugel/
Primary Examiner, Art Unit 1796